King Fire Restoration Project

Purpose and Need for Action

1. Reduce the risk from falling dead, dying, and damaged trees that pose a significant safety concern to forest visitors and workers, and create a hazard to private property, infrastructure, and cultural resources.
2. Remove dead trees in strategic fire management areas to improve the agency's ability to manage and control future fires.
3. Actively manage severely burned areas to facilitate restoration and resilience.
4. Balance active management with the retention of important attributes of post-fire habitat at the landscape scale and within treatment areas to support the diversity and abundance of species.
5. Expeditiously recover timber killed by the fire commensurate with available markets for the purpose of generating funds to offset the cost of restoration activities and contribute to societal needs for wood products.
6. Promote scientific research to increase knowledge regarding the effects of large fires on the environment, how to reduce the risk of future fires, and how to restore resilient forests after fires.

Issues

Issue 1: The proposed salvage harvest in California spotted owl (CSO) territories would impact CSO foraging habitat and lead to loss of occupancy. Alternative 3 was designed to address this issue.

Issue 2: Leaving large portions of the fire untreated results in a dangerously high fuel load in the form of snags and later brush growth and a high risk of future wildfire impacting private land, communities, and forest resources. Alternative 4 was designed to address this issue.

Issue 3: The proposed action fails to remove sufficient dead trees to reduce carbon emissions and plant sufficient new ones to increase carbon absorption resulting in net carbon emissions to the atmosphere. Alternative 4 was designed to address this issue.

Issue 4: Tree planting and herbicides will adversely impact the composition of early successional shrub, forb, and grass species of the post-fire habitat, thereby impacting the many species which require complex early seral forest. Alternatives 3 and 5 were designed to address this issue to varying degrees.

Issue 5: The proposed action will adversely affect black-backed woodpeckers and secondary cavity nesters by removing important intensely burned habitat created by the fire. Alternative 3 was designed to address this issue.

Issue 6: The proposed action has insufficient protection for water quality and aquatic habitat by proposing herbicides within RCAs and permitting log skidding within 150 feet of perennial and intermittent streams. The proposed action was modified to address this issue.

Issue 7: There is no ecological or economic justification to salvage log areas that burned at mixed severity within the Natural Range of Variation (NRV). Alternative 3 was designed to address this issue.

Alternatives Considered in Detail

Alternative 1: No Action: Under the No Action alternative, current management plans would continue to guide management of the project area.

Alternative 2: The Proposed Action. Changes to the proposed action since scoping include: refinement of the boundaries of treatment areas and type of treatment Identification of additional watershed sensitive areas and associated treatments; Adding a research project that utilizes the ongoing monitoring of spotted owls within the Eldorado CSO demography study area to compare owl survival, reproduction, and occupancy between burned and unburned sites. Additional design criteria to reduce environmental effects; Clarification of snag retention within treatment areas; Addition of prescribed fire treatment on the south facing slope above the Rubicon River after approximately 5 years; correcting a mistake in road miles for hazard tree removal.

Alternative 3: This alternative retains greater amounts of post-fire habitat for species that utilize complex early seral forest and early seral shrub habitats and eliminates salvage and reforestation activities where post-fire conditions are within the natural range of variation. Longer term natural regeneration is emphasized over more rapid reforestation.

Alternative 4: This alternative increases treatments in strategic locations to establish and maintain a reduced fuel profile for future fire suppression, change fire behavior, and improve management of natural and prescribed fires.

Alternative 5: This alternative modifies the proposed action by limiting herbicide application to release treatments for seedling survival, as opposed to herbicide release treatments for both survival and growth. Herbicide applications would be limited to a 5 foot radius around seedlings. More than one treatment may be required to ensure seedling survival. Followup treatments of competing vegetation for seedling growth would be limited to hand cutting up to a 5 foot radius from planted and desired natural seedlings. All other aspects of the proposed action are unchanged.

Alternatives Considered but Eliminated from Detailed Study

These alternatives were suggested by the public but were not considered in detail for a variety of reasons including: elements do not meet standards and guidelines in the Forest Plan, determined to have components that would cause unnecessary environmental harm, and do not meet the purpose and need for the project.

Remove the Maximum Amount of Timber Volume: This alternative would salvage all available burned timber.

Hazard Tree Removal Only: This alternative would only cut and remove hazard trees on roads maintained for public use (level 3, 4 and 5 roads) or administrative facilities/infrastructure (campgrounds/buildings, etc.)

Expand Spotted Owl No Salvage Areas and Retain 75% Black-Backed Woodpecker Habitat: This alternative would allow for hazard tree removal and it would protect a 1.5 kilometer area around every spotted owl activity center from salvage logging. This alternative would also retain at least 75 percent of black-backed woodpecker pairs on the Eldorado National Forest as modeled by Tingley et al. 2014, and would prohibit logging from April through August each year.

Natural Succession: This alternative would allow the forest to recover naturally. This alternative differs from "No Action" by including measures to reduce erosion and sedimentation and decommission roads.

Comparison of the Alternatives

Proposed Treatments[1]	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3	Alternative 4	Alternative 5
Wildland Urban Interface Defense Zones (acres)	0	968	968	1,148	968
Strategic Fire Management Zones (acres)	0	8,465	5,899	8,455	8,465
Conifer Forest Resiliency Areas (acres)	0	5,709	4,369	6,662	5,709
Strategically Placed Area Treatment (SPLAT) (acres)	0	0	0	164	0
Strategic Roadside Buffer Zone (acres)	0	0	0	3,671	0
Rubicon Prescribed Fire Area (acres)		2,058 (an additional 784 acres overlaps with other areas for a total of 2,841)	2,085 (an additional 756 acres overlaps with other areas for a total of 2,841)	1,997 (an additional 844 acres overlaps with other areas for a total of 2,841)	2,058 (an additional 784 acres overlaps with other areas for a total of 2,841)
Subtotal Areas Identified for Treatment (acres)	**0**	**17,200**	**13,321**	**22,097**	**17,200**
Mechanical or Ground Based Logging[2] (acres)	0	10,030	7,577	14,395	10,030
Mechanical Logging of Biomass[3] (acres)	0	1,377	1,206	1,489	1,377
Skyline Logging[2] (acres)	0	241	0	905	241
Anticipated Timber Volume Produced (MMBF[4])	0	163	122	238	163
Percent of Total Timber Available	0%	43%	32%	63%	43%
Hand Cut Hazard Trees and Leave in Place Plus Hand Cut and Pile Small Dead Trees (acres)	0	351	296	249	351
Hand Cut and Pile Dead Trees, Plus Masticate/Chip Dead Shrubs (acres)	0	480	464	480	480
Hand Cut and Pile Dead Trees (acres)	0	856	492	860	856
Masticate/Chip or Machine Pile Dead Trees And Shrubs (acres)	0	1,137	714	1,162	1,137
Subtotal Salvage and Fuel Treatment (acres)	**0**	**14,472**	**10,749**	**19,540**	**14,472**
1- Basic Custodial Care (Closed to Public Use)	0	31	31	31	31
2- High Clearance Vehicles	0	132	132	132	132
3 – Suitable for Passenger Cars	0	23	23	23	23
4 – Moderate Degree of User Comfort	0	11	11	11	11
Subtotal Hazard Tree Removal (miles of road)[5]	**0**	**198**	**198**	**198**	**198**

Proposed Treatments[1]	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3	Alternative 4	Alternative 5
Repair (miles)	0	92	92	92	92
Maintenance (miles)	0	169	169	169	169
Subtotal Road Repair and Maintenance (miles)	**0**	**261**	**261**	**261**	**261**
Reforestation/Planting (Acres)	0	11,561	8,107	12,081	Same as proposed action
Stocking Density	NA	Highly variable	Lower compared to proposed action	Same as proposed action	Same as proposed action
Release Acres	0	Up to 11,660 acres possible herbicide release in five-foot radial treatments (circle around tree) plus treatment of shrubs in between trees. 572 acres of hand-grubbing treatment.	No herbicide release. 8,107 acres hand-grubbing treatment.	Same herbicide release compared with proposed action but on up to 12,218 acres. Release would occur on five-foot radial treatments plus treatment of shrubs in between trees. 583 acres hand-grubbing treatment only.	Less herbicide release compared with proposed action on same number of acres. No herbicide release treatments of shrubs in between trees. 572 acres of hand-grubbing treatment only.
Maximum Surface Fuel Loading in Treated Stands (Tons Per Acre < 3 Inches)	NA	6-10	6-10	6-10	6-10
Snag Retention Patches (% Within Treated Area or Unit >150' from un-salvaged timber)[6]	100%	10%	15-20%	10%	10%
Watershed Sensitive Area Treatments (Acres)	0	778	778	778	778

[1] Acreage is approximate and may need to be adjusted subject to additional field verification and/or units/logging systems.

[2] Areas where removal of merchantable trees can be utilized in a sawmill plus removal of un-merchantable trees for fuel reduction. .

[3] Areas where trees generally too small to be utilized in a sawmill would be removed to landings, cogeneration plants, or other facility.

[4] Million board feet of timber after one to two year deterioration

[5] Mileage to be treated for hazard tree removal will depend on whether or not hazard trees are present.

[6] In the Conifer Forest Resiliency Areas, retain specified percentage of each unit in 0.25 acre to 5 acre patches, favoring patches larger than 2 acres in size. The portion of the unit that is more than 150 feet from un-salvaged mature conifer forest would be used in calculating the 10% area retention. Include patches of varying sizes and distribution providing a variety of small, tightly clumped patches and larger more dispersed patches on the landscape. Locate larger patches on lower and north slopes and smaller on ridges and south slopes. No standing snags will be retained in WUI Defense Zones, and within a 300-400 foot wide ridgetop or roadway corridor within the Strategic Fire Management Zone (SFMZ) where firefighter safety and fireline production rates are emphasized. Outside of this corridor, retain the specified percent of the remainder of each SFMZ unit in snag patches varying between 0.25 acres to 2 acres in size, calculated as described above.